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A new species of *Hohenbuehelia* from China

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Abstract — *Hohenbuehelia olivacea* from China is described as new to science.

Key words — *Basidiomycota, Pleurotaceae,* taxonomy

Introduction

The genus *Hohenbuehelia* was established by Schulzer (Schulzer et al. 1866), and it belongs to the family *Pleurotaceae* (Kirk et al. 2001). The main characteristics of the genus are small to large basidiomata, gills that are decurrent or radiate from a point of central or lateral attachment on the under side of the cap, sessile or stipitate with a lateral pseudostipe (rarely a central stipe), a gelatinous zone often forming below the cap cuticle, monomitic and clamped hyphae, thick-walled metuloids, fusiform cheilocystidia, and commonly with an hour-glass secretory cell surrounded by a mucous droplet at the tip of a short or elongated neck (Thorn 1986, Corner 1994).

In earlier studies (Teng 1963; He 1992; Bi et al. 1993, 1997; Chang & Mao 1995; Mao 1998; Chang et al. 2001; Li & Bau 2003), eleven taxa representing *Hohenbuehelia* have been recorded in China. Recently, an additional new species was discovered during the research on the genus based on morphological examinations of collections.

Materials and methods

Specimens were examined with traditional taxonomic methods. KOH solution and Melzer's reagent were used as the mountants when examining the microstructure. Morphological characteristics of the species were described and illustrated according to the observation of the materials. Colour descriptions for

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the new species refer to Ridgway (1912). The specimen studied is now housed in the Herbarium of Mycology of Jilin Agricultural University (HMJAU).

Taxonomy

Hohenbuehelia olivacea Yu Liu & T. Bau, **sp. nov.** Fig. 1

MycoBank MB 513041

Pileus 20–35 mm latus, reniformis ad dimidiatus, flavirens vel fulvus,margine galbinus vel olivaceus, strigosus, strigis olivaceis prope basem. Lamellae decurrentes, flavae, crebrae. Stipes nullus. Basidiosporae (6–)6.5–7.5(–8) × (3–)3.5–4 µm, ellipsoideae. Basidia 25–31 × 5.5–6.5 µm, clavata, 4-sporigera. Cheilocystidia 25–32 × 5–7 µm, clavata, vel ventricoso-fusiformia, saepe capitulata. Metuloidae 52–65 × 9–13 µm, sublanceolatae vel subfusoideae, apice incrustatae. Pileipellis ex hyphis 3–4 µm crassis, repentis vel ascendentis. Superficies pilei sine cystidis.

Holotype: China, Jilin Province, Lushuihe Town, 30 June 2005, Tolgor Bau, HMJAU 7290.

Etymology: The species epithet *olivacea* refers to its pileus colour.

Basidiomata small to middle-sized, reniform or dimidiate, sessile. Pileus 20–35 mm broad, pale yellow-brown to olive, with dense and long tomentum, strigose and slate-"olive" colour towards the base, finely and shortly tomentose and pale "yellow green" or olive at margin when dry. Context thin, white to brownish. Gelatinous zone obviously visible, light brown to pallid brown, glossed. Lamellae "pallid yellow", narrow and moderately close, thin, decurrent. Stipe absent or sometimes covered with white mycelium at the base. Spore print white.

Basidiospores ellipsoid, (6–)6.5–7.5(–8) × (3–)3.5–4 µm, average 6.93 × 3.63 µm, Q = 1.86–2.00, average = 1.94, smooth, hyaline, colourless, thin-walled, multiguttulate. Basidia 25–31 × 5.5–6.5 µm, clavate, with four short sterigmata 1.5–2 µm long. Cheilocystidia 25–32 × 5–7 µm, subclavate, fusoid-ventricose to clavate-capitate, thin-walled, hyaline, with a globular mucous droplet at the tip of a short or elongated neck; the droplet 2.5–3 × 5–7 µm, thick-walled, glossy, becoming hour-glass secretory cell when mature. Metuloids sublanceolate, cyprinoid or fish-fusiform shape, 52–65 × 9–13 µm, gradually enlarged upwards and then with a sharp apex, pale yellow, thick-walled, and crystal-encrusted (about 1/5–1/4) at apex, becoming thinner at the base, implanted into hymenium. Lamellar trama hyphae parallel, 3–5 µm diam., sometimes inflated to 6–8 µm diam., smooth, hyaline, branched, clamped. Pileipellis hyphae 3–4 µm diam., thin-walled to thick-walled, smooth, clamped, forming fascicles arranged on the cuticle as a network, branches and tomentum. Gelatinous zone composed of hyphae in 1.5–3 µm diam., colourless, lax and implicated, often with inflated nodes or clamp connections in the middle of hyphae; hyphal terminals occasionally visible, inflated, thin-walled, hyaline,

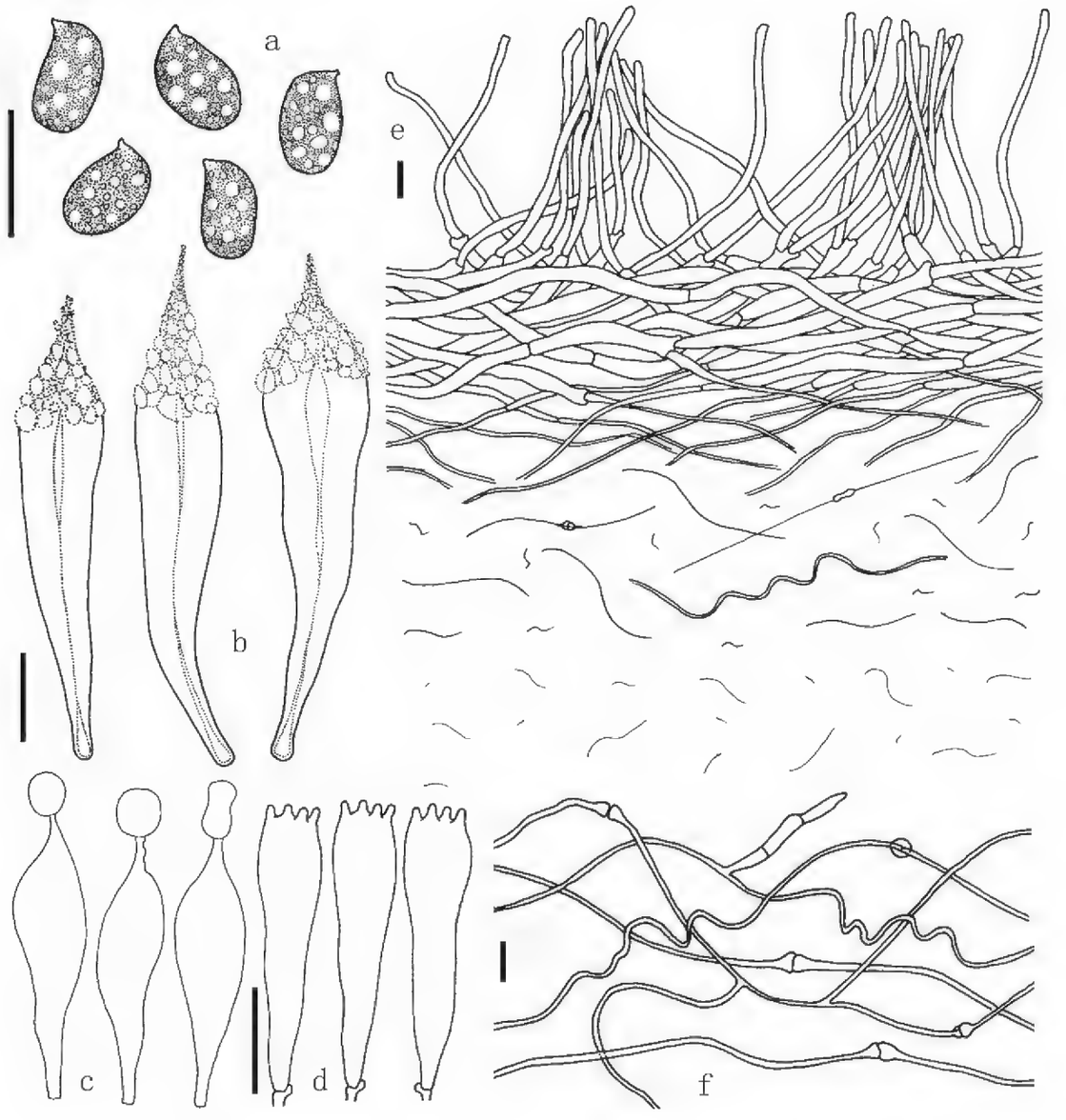

Fig. 1. *Hohenbuehelia olivacea* (HMJAU 7290) (bar = 10μm)
a: Basidospores b: Basidia c: Cheilocystidia d: Metuloids
e: Pileipellis f: Gelatinous zone hyphae

multiseptate, cylindrical or moniliform. Flesh hyphae 4–6 μm diam., thin-walled, hyaline, smooth, sinuous.

Habit—Caespitose on rotten-wood of a broad-leaf tree in mixed forest.

Remarks— This species is similar to *H. reniformis* (G. Mey.) Singer in having a tomentose pileus and short, stout sterigmata but differs from the latter in its slate-olive tomentum on the pileus and the lack of pileocystidia. Moreover, the metuloids of the new species are sublanceolate or cyprinoid, with a sharp apex.

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